

Work Order ID 122818

\*122818\*

July-28-14 12:53:08 PM

Page 1

Item ID: D4894-1 Accept \*N9000040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Fwd Beam  
 Start Date: 7/28/14 Start Qty: 2.00 \*2\* Cust Item ID:  
 Required Date: 8/08/14 Req'd Qty: 2.00 \*2\* Customer:  
 Reference:

Approvals: Process Plan: U Date: Tooling: Date: Run Start \*NR1\*  
 QC: Date: SPC (Y/N): Date: Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| D4894    | B            |

|     |                |      |  |  |  |   |   |  |                      |
|-----|----------------|------|--|--|--|---|---|--|----------------------|
| 100 | FLOW WATER JET | 0.00 |  |  |  | 2 | 0 |  | DAS 23 9-89 14-07-30 |
|-----|----------------|------|--|--|--|---|---|--|----------------------|

\*100\*  
 Waterjet  
 FLOW CNC Waterjet  
 Memo  
 1-Cut as per Dwg  
 Dwg Rev: B  
 Prog Rev: 3  
 2-Deburr if necessary

|     |   |      |  |  |  |   |   |  |                      |
|-----|---|------|--|--|--|---|---|--|----------------------|
| 110 | QC2- Inspect parts off machine FAI/FAIB | 0.00 |  |  |  | 2 | 0 |  | DAS 23 9-89 14-07-30 |
|-----|---|------|--|--|--|---|---|--|----------------------|

\*110\*  
 QC  
 Quality Control  
 Memo

|     |                              |      |  |  |  |   |   |  |                                      |
|-----|------------------------------|------|--|--|--|---|---|--|--------------------------------------|
| 114 | Conventional Milling Machine | 0.00 |  |  |  | 2 | 0 |  | J.C.L. 14/08/01 14-08-01 DAS 20 9-89 |
|-----|------------------------------|------|--|--|--|---|---|--|--------------------------------------|

\*114\*  
 Mill Conv  
 Conventional Milling Machine  
 Memo  
 DRILL HOLES AS PER DWG

# Work Order ID 122818

July-28-14 12:53:08 PM

**\*122818\***

Page 2

Item ID: D4894-1 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Fwd Beam  
 Start Date: 7/28/14 Start Qty: 2.00 **\*2\*** Cust Item ID:  
 Required Date: 8/08/14 Req'd Qty: 2.00 **\*2\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID                      | Operation<br>Description  | Set Up/<br>Run Hours | Tool ID | Tool #   | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp                           |
|---|---|----------------------|---------|----------|--------------|---------------|---------------|------------------|--|
| 116<br><b>*116*</b><br>QC<br>Quality Control        | QC2- Inspect parts off machine FAI/FAIB<br><br>Memo             | 0.00<br><br>0.00     |         |          |              | 2             | 0             |                  | JL-L. /<br>14/08/01<br>DAS<br>20<br>9-89 |
| 120<br><b>*120*</b><br>QC<br>Quality Control        | QC8- Inspect parts - second check<br><br>Memo                   | 0.00<br><br>0.00     |         | 14/08/05 |              | 2             | 0             |                  | DAS<br>08<br>9-89                        |
| 130<br><b>*130*</b><br>HandFinish<br>Hand Finishing | Chemical Conversion Coat per QSI005 4.1<br>NC BRAKE<br><br>Memo | 0.00<br><br>0.00     |         |          |              | 2             |               | 7/14/8-8         |  |

# Work Order ID 122818

July-28-14 12:53:08 PM

**\*122818\***

Page 3

Item ID: D4894-1 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Fwd Beam  
 Start Date: 7/28/14 Start Qty: 2.00 **\*2\*** Cust Item ID:  
 Required Date: 8/08/14 Req'd Qty: 2.00 **\*2\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                      | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 131                            | White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*131*</b>                   |   |                      |         |        |              |               |               |                  |                |
| Powdercoat                     | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Powder Coating                 | MASK AS PER NOTE 8                            |                      |         |        |              |               |               |                  |                |
|                                | START TIME: <u>1:10</u>                       |                      |         |        |              |               |               |                  |                |
|                                | OVEN TEMPERATURE: <u>320</u>                  |                      |         |        |              |               |               |                  |                |
|                                | FINISH TIME: <u>1:40</u>                      |                      |         |        |              |               |               |                  |                |
| 132                            | QC3- Inspect Part Finish                      | 0.00                 |         |        |              |               |               |                  |                |
| <b>*132*</b>                   |   |                      |         |        |              |               |               |                  |                |
| QC                             | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |   |                      |         |        |              |               |               |                  |                |
| 140                            | QC5- Inspect part completeness to step on W/O | 0.00                 |         |        |              |               |               |                  |                |
| <b>*140*</b>                   |   |                      |         |        |              |               |               |                  |                |
| QC                             | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |   |                      |         |        |              |               |               |                  |                |

N/A  
 DAS  
 38  
 9-89  
 14/08/13

# Work Order ID 122818

**\*122818\***

July-28-14 12:53:08 PM

Page 4

Item ID: D4894-1 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Fwd Beam  
 Start Date: 7/28/14 Start Qty: 2.00 **\*2\*** Cust Item ID:  
 Required Date: 8/08/14 Req'd Qty: 2.00 **\*2\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                            | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty      | Reject<br>Number | Insp.<br>Stamp     |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|--------------------|------------------|--------------------|
| 150                            | Identify as per dwg & Stock Location: <b>ST 379</b> | 0.00                 |         |        |              |               |                    |                  |                    |
| <b>*150*</b>                   |   |                      |         |        |              |               |                    |                  |                    |
| Packaging                      | Memo  | 0.00                 |         |        |              | <b>2X</b>     | <b>DAS 28 9-89</b> |                  | <b>AUG 13 2014</b> |
| Packaging                      |   |                      |         |        |              |               |                    |                  |                    |
| 160                            | QC21- Final Inspection - Work Order Release         | 0.00                 |         |        |              |               |                    |                  |                    |
| <b>*160*</b>                   |   |                      |         |        |              |               |                    |                  |                    |
| QC                             | Memo  | 0.00                 |         |        |              |               |                    |                  |                    |
| Quality Control                |   |                      |         |        |              |               |                    |                  |                    |

**MUJ 14-08-15**  
**MUJ 14-08-14**

# Picklist Print

July-28-14 12:53:07 PM

Page 1

Work Order ID: 122818

\*122818\*

Parent Item: D4894-1

\*D4894-1\*

Parent Item Name: Fwd Beam

Start Date: 7/28/14

Required Date: 8/08/14

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 13.05.27 NEW ISSUE DD VERF:JLM

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty  | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|---------------|---------------|----------------|--------|
| M6061T6B1.000X06.00<br>0        |                        | Purchased     | No          |                     |                  |                 | f                  | 33.7500        |             | <del>10</del> |               |                |        |

~~\*M6061T6B1 000X06 000\*~~

6061T6 BAR 1.00 X 6.00

\*\*

02/14/07/30

Location

Loc Qty

Loc Code

MAT003

33.75

m125771

2

m127797

2.55

m129530

3.2

m129639

26

m6061T6 B 1.000 X 12.000



B#

129639

5 ft.

DAS  
23  
9-00

14-07-30



8 7 6 5 4 3 2 1

D

C

B

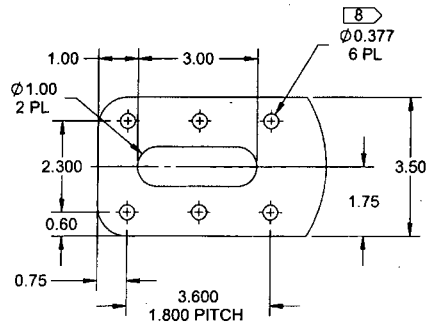
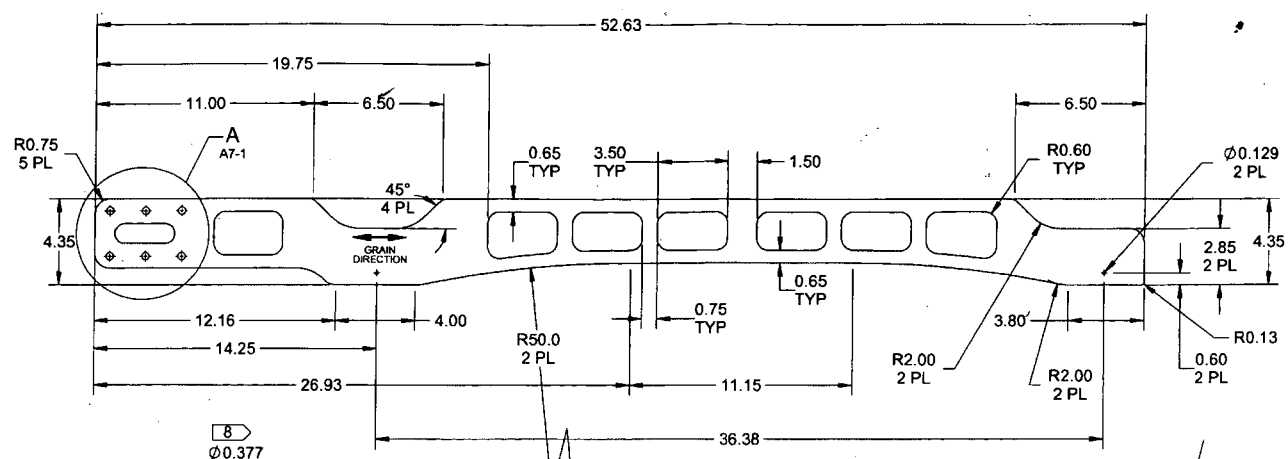
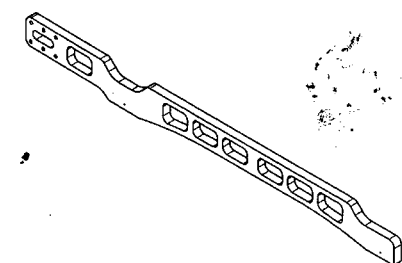
A

D

C

B

A



**DETAIL A** D7-1

**D4894-1 FWD BEAM**

*W/O 122818*

**RELEASED**  
2014-07-24  
*mp*

**NOTES:**

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR  
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
OR ASTM B211 OR ASTM B221  
REF DART SPEC M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 11.96 lbs
- 8) MASK HOLES PRIOR TO POWDER COAT

**APPROVED**

| B          | REMOVED ONE Ø0.129 HOLE FROM D4894-3 (ZN D2-2) | RF   | 14.06.24     |
|------------|--|--|--------------|
| A          | NEW ISSUE                                      | RF   | 13.05.24     |
| REV        | DESCRIPTION                                    | BY   | DATE         |
| DESIGN     | RF   | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA   |              |
| DRAWN      | RF   |  |              |
| CHECKED    | VS   | DRAWING NO.  | REV. B       |
| MFG. APPR. | JLM  | <b>D4894</b>   | SHEET 1 OF 2 |
| APPROVED   | HS   | TITLE  | SCALE        |
| DE APPR.   | DS   | <b>BEAM</b>  | NTS          |
| DATE       | 14.06.24                                       | <small>COPYRIGHT © 2013 BY DART AEROSPACE LTD<br/>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS<br/>NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT<br/>WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small> |              |

8 7 6 5 4 3 2 1

DQA:

Date: 14/08/27



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 14/8/26

Work Order update only ☐

|                           |   |   |                                    |  |                                      |
|---------------------------|---|---|------------------------------------|--|--------------------------------------|
| Work Order: <u>122818</u> | <b>DISPOSITION</b><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input checked="" type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b>             |                                    |  |                                      |
| Part No. <u>D48941</u>    |   | Skid-tube <input type="checkbox"/>            | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/>           | Engineering <input type="checkbox"/> |
| NCR No. <u>14-4174</u>    |   | Machining <input checked="" type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/>   | Quality <input type="checkbox"/>     |
|                           |   | Thermoforming <input type="checkbox"/>        | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/>       |
|                           |   | Large Fab <input type="checkbox"/>            | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/>            |                                      |

| Root Cause    |  | Date   | Step | Qty | Description of work order update or non-conformance  | Initial Chief Eng               | Action Description   | Sign & Date                              | Verification                    | QC Inspector                    |
|---------------|--|--------|------|-----|--|---------------------------------|--|--|---------------------------------|---------------------------------|
| Design        |  | 14/8/7 | 114  | x1  | C'SINK ON Ø0.129<br>HOLE IS TOO DEEP?<br><br>RC. operator error / tool set too high no Reverberate | 08-8<br>21<br>SVD<br><br>14/8/7 | Acceptable.<br><br>FOR ATTACHING<br>LANYARD, NO<br>STRESS, ACCEPTABLE. | 08-8<br>21<br>SVD<br><br>J.C.L<br>14/8/7 | DAS<br>16<br>9-89<br><br>14/8/8 | DAS<br>16<br>9-89<br><br>14/8/8 |
| Doc/Data      |  |        |      |     |  |                                 |  |  |                                 |                                 |
| Equip/Tooling |  |        |      |     |  |                                 |  |  |                                 |                                 |
| Handling/Pre  |  |        |      |     |  |                                 |  |  |                                 |                                 |
| Material      |  |        |      |     |  |                                 |  |  |                                 |                                 |
| Operator      |  |        |      |     |  |                                 |  |  |                                 |                                 |
| Offset/Setup  |  |        |      |     |  |                                 |  |  |                                 |                                 |
| Process       |  |        |      |     |  |                                 |  |  |                                 |                                 |
| Supplier      |  |        |      |     |  |                                 |  |  |                                 |                                 |
| Training      |  |        |      |     |  |                                 |  |  |                                 |                                 |
| Transport     |  |        |      |     |  |                                 |  |  |                                 |                                 |
| Unapproved    |  |        |      |     |  |                                 |  |  |                                 |                                 |

## FAULT CATEGORY

|  |  |   |   |  |
|--|--|---|---|--|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions<br><input checked="" type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Set-up<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><input type="checkbox"/> Other |
|--|--|---|---|--|